(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 1 July 2004 (01.07.2004)

PCT

(10) International Publication Number WO 2004/055340 A1

(51) International Patent Classification7: F01D 21/12

F02C 9/28,

(21) International Application Number:

PCT/EP2003/014174

(22) International Filing Date:

10 December 2003 (10.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: MI2002A002660

17 December 2002 (17.12.2002)

- (71) Applicant (for all designated States except US): NUOVO PIGNONE HOLDING S.P.A. [IT/IT]; Via F. Matteucci, 2, I-50127 Firenze (IT).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): CASONI, Andrea [IT/IT]; Via dell'Arcolaio, 5, I-50137 Firenze (IT). GROPPI, Stefano [IT/IT]; Piazza del Popolo, 27, I-51015 Monsummano Terme (IT). RUSSO, Alessandro [IT/IT]; Via S. Antonio, 47, I-56125 Pisa (IT).

- (74) Agents: COPPO, Alessandro et al.; Ing. Barzanó & Zanardo Milano S.p.A., Via Borgonuovo, 10, I-20121 Milan (TT).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CORRECTED PARAMETER CONTROL METHOD FOR A TWO-SHAFT GAS TURBINE

(57) Abstract: A corrected parameter control method for a two-shaft gas turbine, of the type in which the protection of the said turbine is provided by a first control loop which controls the opening of fuel valves to keep the gas temperature Tfire at the inlet to a first wheel of the said turbine and the fuel/air ratio F/A within specified limits: this control is provided in such a way that the exhaust temperature TX has values calculated by a linear approximation, in other words as the sum of a reference temperature TXbase to which are added corrections relating to a single environmental or operating parameter which differs from the reference parameter; a second control loop, which controls the opening of a valve (bleed valve) located between the outlet of the axial compressor and the atmosphere, controls the F/A ratio: this control is provided in such a way that the exhaust temperature has values calculated by a linear approximation.

